

Spotlight on Diagnostic and Test Instrumentation

AT ISSUE:

Cataract diagnostic tests

At Issue posed the following question to a panel of experts: What diagnostic tests are essential for the best outcomes in cataract surgery?

Preoperative OCT a significant step

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Refractive cataract surgeons are continually attempting to keep pace with increasing patient expectations, seeking a consistent optimum visual outcome. A significant step has been the preoperative optical coherence tomography scans of the macula becoming routine in preoperatively diagnosing subtle or significant macula problems. Patients, after detection this way, can be counseled on revised surgical expectation or referred for retinal management before their cataract surgery. OCT has recently proved to be an invaluable tool to assist the cataract surgeon in avoiding disappointing surgical surprises.




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Several other essential diagnostic tests are routinely required. These start with an accurate manifest refraction and best corrected visual acuity, which can assess the effect of the cataract on vision and indeed whether surgery is yet necessary. Naturally, an accurate biometry with laser interferometry or immersion ultrasound is needed, with separate manual keratometry being a useful tool to confirm corneal astigmatism and its meridian. Corneal topography is essential when limbal relaxing incisions, toric implants or multifocal implants are planned, not only to gauge corneal astigmatism but to quantify irregularity that may help determine the mode of treatment. Interpreting the axial length readings and then selecting the correct IOL power formula play a crucial part in determining the accuracy of the refractive outcome.

After surgery, a stable postoperative refraction is essential to track

outcomes and further optimize IOL constants to improve the personalized accuracy of the formulas used.

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